

REMARKS

In the Office Action, the Examiner indicated that the previously submitted replacement drawing sheets were deficient because they were not labeled as either "Replacement Drawing Sheet" or "New Sheet." The Examiner therefore requested that new replacement drawings be submitted by Applicants. Formal drawings including the label "Replacement Drawing Sheet" are submitted herein. Applicants respectfully request that the Examiner accept the new replacement drawing sheets.

Claims 1-13 are pending in the present application.

In the Office Action, claim 5 was rejected under 35 USC 112, first paragraph, as allegedly failing to comply with the enablement requirement. In particular, the Examiner alleges that the specification does not indicate how correlation is utilized to create a correlation coefficient using a lookup table. Applicants respectfully disagree and direct the Examiner's attention to lines 12-22 on page 10 of the Patent Application, which state that the lookup table includes optimal values of λ for values of the channel correlation coefficient ρ . The lookup table may be created and stored prior to the intended communication. Thus, in operation, the channel correlation coefficient may be determined using the received signal and then an appropriate value of λ may be selected using the lookup table.

For at least the aforementioned reasons, Applicants respectfully submit that claim 5 complies with the enablement requirement and request that the Examiner's rejection of claim 5 under 35 USC 112, first paragraph, be withdrawn.

In the Office Action, the Examiner rejected claims 1-13 under 35 USC 112, second paragraph, as allegedly being indefinite. Claim 1 has been amended to set forth "determining at least one correlation coefficient between signals received by the at least two antennae." Pursuant

to this amendment, Applicants respectfully submit that claim 1 is definite and request that the Examiner's rejections of claims 1-13 under 35 USC 112, second paragraph, be withdrawn.

In the Office Action, claims 1, 2, and 5-13 were rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Harrison (U.S. Patent No. 6,154,485) in view of Ward (U.S. Patent No. 6,167,286). Claims 3-4 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Harrison in view of Ward and further in view of Forssen, et al (U.S. Patent No. 6,173,014). The Examiner's rejections are respectfully traversed.

Claim 1 sets forth a method of transmitting signals from at least two antennae. The claimed method includes the steps of determining at least one correlation coefficient between signals received by the at least two antennae and, in response to the at least one determined correlation coefficient, selecting at least one of orthogonal coding and beamforming for transmitting signals using the at least two antennae. Figure 1 depicts one exemplary embodiment of a system 8 that may implement the claimed method. The system 8 includes two transmit antennae 24, 26. A space-time encoder 12 may be used to compute correlation coefficients that can be used to control relative amounts of beamforming and orthogonal coding. See Patent Application, page 6, line 18 – page 12, line 14 and Figures 1-2.

To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Applicants respectfully submit that Harrison and Ward fail to teach or suggest all the limitations of the claimed invention.

Harrison is concerned with receiving signals using combined orthogonal transmit diversity and adaptive array techniques. Harrison describes a coefficient α that may be used to calculate adaptive array filter weights 90 and 92, which may be used by an adaptive array processor 76 to allow a base transmitter to smoothly transition between an orthogonal transmit

diversity mode and an adaptive array mode in proportion to degradation in the quality of feedback data. This smooth transition may allow the base transmitter to smoothly disable the adaptive array mode in proportion to the degradation of the quality of feedback data from a receiver. See Harrison, col. 8, ll. 23-35. Ward describes receiving feedback from more than one antenna.

In the Office Action, the Examiner alleges that the coefficient α described in Harrison is a correlation coefficient. In particular, the Examiner alleges that the coefficient α is a correlation coefficient because the manner in which the coefficient α is used may affect the correlation of signals transmitted by the antenna described in Harrison. Applicants respectfully disagree and submit that whether or not particular values of the coefficient α described in Harrison may result in correlations between signals transmitted by different antennas is not relevant to the question of how persons of ordinary skill in the art would interpret the term "correlation coefficient." As stated in previous responses, the term "correlation coefficient" has a specific meaning that is well understood by persons of ordinary skill in the art. Applicants have provided ample evidence that persons of ordinary skill in the art would interpret the term "correlation coefficient" to refer to a well-known statistical quantity that represents the degree to which distributions of two or more quantities are linearly associated. The Examiner has provided no evidence to contradict this position or to demonstrate that a person of ordinary skill in the art would refer to the coefficient α described in Harrison as a correlation coefficient.

Applicants further submit that the Examiner has construed the meanings of the words in the claims using an approach that runs completely contrary to the accepted procedures for interpreting the words in a claim. The MPEP sets forth the standard for determining the meanings of words in claims in §2111.01, which states that the words of the claim must be given

their "plain meaning" and the "plain meaning" refers to the meaning given to the term by those of ordinary skill in the art. No statute or guideline in the MPEP requires that definitions of the words used in a claim be recited in the claim, contrary to the statements made by the Examiner in the Office Action. Furthermore, no statute or guideline in the MPEP states that the Examiner may construe the meanings of words in the claim in a manner that contradicts the meaning that would be given to these words by persons of ordinary skill in the art. To the contrary, Applicants respectfully submit that such a construction is improper according to the rules set forth by the Office.

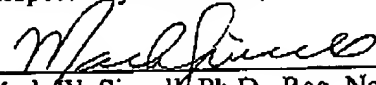
With regard to claims 3-4, the Examiner relies upon Forssen to teach the use of amplitude and phase information to create a beam. However, Forssen fails to remedy the fundamental deficiencies of Harrison discussed above with respect to claim 1.

For at least this reason, Applicants respectfully submit that the Examiner has failed to make a *prima facie* case that the present invention is obvious over the cited references and requests that the Examiner's rejections of claims 1-13 under 35 U.S.C. § 103(a) be withdrawn.

For the aforementioned reasons, it is respectfully submitted that all claims pending in the present application are in condition for allowance. The Examiner is invited to contact the undersigned at (713) 934-4052 with any questions, comments or suggestions relating to the referenced patent application.

Date: 6/5/06

Respectfully submitted,


Mark W. Sincell, Ph.D., Reg. No. 52,226
Williams Morgan & Amerson, P.C.
10333 Richmond Avenue, Suite 1100
Houston, TX 77042
(713) 934-7000
(713) 934-7011 (Fax)
AGENT FOR APPLICANTS